CLAIMS

What is claimed is:

1. A body immobilization and stereotactic localization frame comprising non-invasive means for immobilizing a human body from head to pelvis, said non-invasive immobilization means comprising form fitting custom molds for both anterior and posterior portions of the body, and a base comprising one or more imaging localization fiducials wherein at least one of said fiducials varies its position along a first axis of said frame depending on position in a second axis of said frame and wherein a line fit to said at least one of said fiducials is not parallel to said second axis.

2. The frame of claim 1 wherein said posterior mold comprises a mold selected from the group consisting of vacuum molds and polyurethane foam molds and said anterior mold comprises a thermoplastic mold.

3. The frame of claim 1 wherein said molds are reusable for a same patient's body over a course of a fractionation treatment regimen.

4. The frame of claim 1 wherein said frame need not be orthogonally aligned within a scanning device in order to permit precise stereotactic localization of images taken by the scanning device.

5. The frame of claim 1 additionally comprising quality assurance markers placed in opposing pairs at predetermined positions along an axis of said frame.

6. The frame of claim 1 additionally comprising an imaging resolver comprising a continuous array of coupled fiducials.

7. A body immobilization and stereotactic localization method comprising the steps of immobilizing both anterior and posterior portions of a human body from head to pelvis via form fitting custom molds and providing to the frame a base comprising one or more imaging localization fiducials wherein at least one of the fiducials varies its position along a first axis of the frame depending on position in a second axis of the frame and wherein a line fit to the at least one of said fiducials is not parallel to the second axis.

8. The method of claim 7 wherein the posterior immobilization step comprises providing a posterior mold comprising a mold selected from the group consisting of vacuum molds and polyurethane foam molds and the anterior immobilization step comprises providing an anterior mold comprising a thermoplastic mold.

9. The method of claim 7 additionally comprising the step of reusing both posterior and anterior molds for a same patient's body over a course of a fractionation treatment regimen.

10. The method of claim 7 additionally comprising the step of scanning a body with a scanning device wherein the frame need not be orthogonally aligned within the scanning device in order to permit precise stereotactic localization of images taken by the scanning device.

11. The method of claim 7 additionally comprising the step of providing to the frame quality assurance markers placed in opposing pairs at predetermined positions along an axis of the frame.

12. The method of claim 7 additionally comprising providing to the frame an imaging resolver comprising a continuous array of coupled fiducials.

13. A stereotactic localization frame comprising an imaging resolver comprising a continuous array of coupled fiducials wherein a line fit to said fiducials is not parallel to an axis of said frame.

14. The frame of claim 13 wherein said imaging resolver comprises one or more imaging localization fiducials having a waveform that depends on position in an axis of said frame.

15. The frame of claim 14 wherein said one or more imaging localization fiducials comprise one or more waveforms selected from the group consisting of sine and cosine waveforms.

16. The frame of claim 15 comprising coupled fiducials forming a $\pi/2$ horizontal linked sine and cosine wave fiducial pattern.

17. The frame of claim 13 additionally comprising non-invasive means for immobilizing a human body from head to pelvis, said non-invasive immobilization means comprising form fitting custom molds for both anterior and posterior portions of the body.

18. The frame of claim 13 additionally comprising quality assurance markers placed in opposing pairs at predetermined positions along an axis of said frame.

19. A method of stereotactic localization comprising providing to a frame an imaging resolver comprising a continuous array of coupled fiducials wherein a line fit to the fiducials is not parallel to an axis of the frame.

20. The method of claim 19 wherein the providing step comprises providing an imaging resolver comprising one or more imaging localization fiducials having a waveform that depends on position in an axis of the frame.

21. The method of claim 20 wherein the providing step comprises providing an imaging resolver comprising one or more imaging localization fiducials comprising one or more waveforms selected from the group consisting of sine and cosine waveforms.

22. The method of claim 21 wherein the providing step comprises providing an imaging resolver comprising coupled fiducials forming a $\pi/2$ horizontal linked sine and cosine wave fiducial pattern.

23. The method of claim 19 additionally comprising the step of providing to the frame non-invasive means for immobilizing a human body from head to pelvis comprising form fitting custom molds for both anterior and posterior portions of the body.

24. The method of claim 19 additionally comprising the step of providing to the frame quality assurance markers placed in opposing pairs at predetermined positions along an of the frame.